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The first optical unit **81** is configured as a lens having a negative refractive power and includes optically effective surfaces S6 and S7. The second movable optical unit **80** includes a cemented element having a positive overall refractive power. The cemented element includes optically effective surfaces S1, S2 and S3. Furthermore, the second optical unit **80** includes a lens having a positive refractive power and which includes optically effective surfaces S4 and S5. The lens is arranged downstream of the cemented element, relative to a light path of the measurement beam **9** directed toward the object. The third optical unit **82** is configured as a lens having a negative refractive power and which includes optically effective surfaces S8 and S9.

As is shown in FIGS. 1 and 4, the optical system **1** includes a foot pedal **70** as a control element, as well as a knob **73** as a control element. Each of these control elements can be placed into plurality of states. By way of example, the foot pedal **70** is configured so that the foot pedal **70** can be brought into different pedal positions by different values of a pressing force applied by the user's foot. Each of the pedal positions corresponds to a state. Depending on the pedal position, signals are transmitted to the controller **4**. The knob **73** is configured so that different turning positions of the knob **73** relative to a scale **72** cause different signals to be transmitted to the controller **4**. Thereby, the different turning positions represent a plurality of states.

For each of these control elements, the controller **4** is configured so that, depending on the selected state of the control element, an operating parameter of the optical system **1** is adjusted, wherein by means of the different operating elements (i. e. by using the foot pedal **70** and the knob **73**), different operating parameters of the optical system **1** are adjusted. Each of the operating parameters is adjusted by the controller **4** according to a predefined dependency between the states of the respective control element and values of the operating parameters.

The optical system **1** further comprises a flip switch **74** as a control element. By operating the flip switch **74**, the optical system **1** is switchable into a first and a second operating mode. In the first operating mode, the controller **4** is configured so that by using the foot pedal **70** and the knob **73**, operating parameters of the OCT system **2** are adjustable. In the second operating mode, the controller **4** is configured so that by using the foot pedal **70** and the knob **73**, operating parameters of the microscope system **3** are adjustable.

By way of example, in the first operating mode, by using the foot pedal **70**, a zoom magnification of the zoom system **50** can be adjusted and by using the knob **73**, the object plane distance of the object plane can be adjusted. In the first operation mode, this allows the surgeon to adjust two different operating parameters of the microscope system by using both control elements.

In the second operating mode, by using the foot pedal **70**, the beam waist diameter of the measurement beam is adjusted and by using the knob **73**, the axial beam waist position of the measurement beam **9** is adjusted. By using both control elements the second operating mode, this allows the surgeon to adjust two different operating parameters of the OCT system **2**.

By virtue of the operating elements and by providing the possibility of switching the control elements into the first or into the second operating mode, the surgeon can switch between the operation of the microscope system and the operation of the OCT system in an efficient way and thereby the surgeon can use the optical system in an efficient manner when conducting surgical procedures.

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While the disclosure has been described with respect to certain exemplary embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, the exemplary embodiments of the disclosure set forth herein are intended to be illustrative and not limiting in any way. Various changes may be made without departing from the spirit and scope of the present disclosure as defined in the following claims.

The invention claimed is:

1. An optical system for inspecting an eye comprising: a microscopy system for generating an image of an object region in an image plane; wherein the microscopy system comprises a zoom system for varying an imaging magnification of the generation of the image through a variation of a zoom magnification of the zoom system; an OCT system, which is configured to generate a measurement beam, which is incident on the object region in a converging manner to form a measurement focus which comprises a beam waist; wherein the optical system comprises a controller for controlling a beam waist diameter of the beam waist and for controlling the zoom magnification; wherein the controller is configured for a coupled control of the beam waist diameter and the zoom magnification according to a predefined dependency between the beam waist diameter and the zoom magnification; and wherein the controller is configured for selectively activating and deactivating the coupled control of the beam waist diameter and the zoom magnification.
2. The optical system according to claim 1, wherein the controller is further configured for a coupled control of the beam waist diameter and a length of an axial measurement range of the OCT system according to a predefined dependency between the beam waist diameter and the length of the axial measurement range.
3. An optical system for inspecting an eye, the optical system comprising: an OCT system which is configured to generate a measurement beam, which is incident on an object region in a converging manner to form a measurement focus which comprises a beam waist; wherein the OCT system comprises a scanning system, an objective lens, and a beam expander, wherein the beam expander is configured for a controllable beam expansion of the measurement beam, wherein the scanning system, the objective lens and the beam expander are disposed in the measurement beam; wherein the beam expander is disposed along the measurement beam between the scanning system and the objective lens and generates an intermediate focus between the scanning system and the objective lens; wherein the OCT system is configured to generate different values of a beam waist diameter of the beam waist by means of controlling the controllable beam expansion; and wherein at the different values of the beam waist diameter, an axial beam waist position of the beam waist is substantially identical.
4. The optical system according to claim 3, wherein: at each of the different values of the beam waist diameter, a position of an object-side focal plane of the beam expander is substantially identical; or at each of the different values of the beam waist diameter, the beam expander is an afocal system.